

AMENDMENTS TO THE CLAIMS

Claims 1 to 20 (Cancelled)

21. (New) An isolated polypeptide comprising a polypeptide sequence selected from the group consisting of:

(a) an isolated polypeptide comprising amino acids 1 to 541 of SEQ ID NO:2; and

(b) an isolated polypeptide comprising amino acids 2 to 541 of SEQ ID NO:2.

22. (New) The isolated polypeptide of Claim 21, wherein said polypeptide is (a).

23. (New) The isolated polypeptide of Claim 21, wherein said polypeptide is (b).

24. (New) An isolated polypeptide produced by a method comprising:

(a) culturing an isolated recombinant host cell comprising a vector that comprises the coding region encoding the polypeptide of Claim 21 under conditions such that the polypeptide of Claim 21 is expressed; and

(b) recovering said polypeptide.

25. (New) The isolated polynucleotide of Claim 21 wherein said polypeptide sequence further comprises a heterologous polypeptide sequence.

26. (New) The isolated polynucleotide of Claim 25 wherein said heterologous polypeptide is the Fc domain of an immunoglobulin.

27. (New) An isolated polypeptide comprising the polypeptide encoded by the BGS-42 cDNA clone A in ATCC Deposit No. PTA-4454.

28. (New) An isolated polypeptide comprising the polypeptide encoded by the BGS-42 cDNA clone B in ATCC Deposit No. PTA-4454.

29. (New) An isolated polypeptide comprising the polypeptide encoded by the BGS-42 cDNA clone C in ATCC Deposit No. PTA-4454.

30. (New) An isolated polypeptide comprising a polypeptide sequence that is at least 95.0% identical to amino acids 2 to 541 of SEQ ID NO:2, wherein percent identity is calculated using a CLUSTALW global sequence alignment using default parameters, and wherein said polypeptide has tubulin tyrosine ligase activity.

31. (New) An isolated polypeptide consisting of at least 50 contiguous amino acids of SEQ ID NO:2.

32. (New) An isolated polypeptide comprising amino acids 73 to 365 of SEQ ID NO:2.

33. (New) An isolated polypeptide comprising amino acids 133 to 374 of SEQ ID NO:2.
34. (New) An isolated polypeptide comprising amino acids 2 to 541 of SEQ ID NO:2, wherein the amino acid located at amino acid position 515 is a glutamic acid.
35. (New) An isolated polypeptide comprising amino acids 2 to 541 of SEQ ID NO:2, wherein the amino acid located at amino acid position 524 is a serine.
36. (New) An isolated polypeptide comprising at least 394 contiguous amino acids of SEQ ID NO:2.
37. (New) The isolated polypeptide of Claim 21(a) or (b), wherein said polypeptide has tubulin tyrosine ligase activity.
38. (New) The isolated polypeptide of Claim 21(a) or (b), wherein said encoded polypeptide has one amino acid substitution.
39. (New) An isolated polypeptide comprising a polypeptide encoded by a polynucleotide that hybridizes under stringent conditions to the polynucleotide encoding amino acids 2 to 541 of SEQ ID NO:2, wherein said stringent conditions are as follows: an overnight incubation at 42 degree C in a solution comprising 50% formamide, 5x SSC (750 mM NaCl, 75 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 µg/ml denatured, sheared salmon sperm DNA, followed by washing the filters in 0.1x SSC at about 65 degree C, wherein said polynucleotide encodes a polypeptide that has tubulin tyrosine ligase activity.
40. (New) An isolated polypeptide produced by a method comprising:
- (a) culturing an isolated recombinant host cell comprising a vector that comprises a coding region operatively linked to nucleotides -2057 to -1 of the sequence provided in Figures 7A-B under conditions such that a polypeptide is expressed; and
 - (b) recovering said polypeptide.